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ABSTRACT

Three studies assessed the effects of behavioral objectives on the performance of remedial readers. Subjects were three groups of 16 pupils who were participating in a reading-center tutorial program. During the two-month instructional period, half of the students were given behavioral objectives and half were not. For the post-instruction assessment, two tasks were developed for each pupil. On one task, the pupil was informed of the specific behavioral objective; on the other, similar task, no information about objectives was given. Results indicated that pupils who had been informed of behavioral objectives during the two-month period prior to assessment performed at a high level on both tasks, whereas those who had not been previously informed of behavioral objectives did less well on the tasks for which no objective was given. This was interpreted as supporting the assumption that information about behavioral objectives increases pupils' performance. (AA)

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Effect of Behavioral Objective Information Upon Remedial Reader Performance

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Behavioral objectives are a dimension of communication. One of the advantages of a behaviorally stated objective is that it enables the teacher to clearly communicate the instructional intents of a particular learning activity to the learner. The reason for communicating behavioral objective information to the learner is based on the assumption that the more a pupil knows about what to do, under what conditions he is to do it, and what is acceptable performance - the better performance will be.

PURPOSE

Mager (1962:53) suggested, "if you give each learner a copy of your objectives, you may not have much else to do." The purpose of this investigation was to test the efficacy of this assumption with 48 remedial reading subjects. The following hypothesis was tested: There is no significant difference in paired task performance between subjects informed of a specific behavioral objective and the same subjects when they have not been informed (uninformed) of a specific behavioral objective.

RELATED RESEARCH

A review of research offers inconsistent conclusions on the previous hypothesis. Walhesser and Eisenberg (1972) reviewed fifteen studies which primarily referred to mathematics and science tasks. It was found that 53 percent of these investigations supported the hypothesis and 47 percent did not support the hypothesis that telling the learner the behavioral objective increases achievement.

CS 003 091

Four other investigations were identified which tested the hypothesis with reading tasks. These investigations revealed a pattern similar to the pattern found with mathematics and science. Laswell (1965) concluded that goal setting had no effect upon the reading rate and comprehension of fourth grade pupils. However, the goal setting students expressed enjoyment with the reading task and was more willing to continue. By contrast, Powers (1970) concluded that third and fourth grade pupils who participated in an individual goal-setting conference once a week achieved significantly higher on a reading skill development test.

Kalish (1972) investigated whether the use of behavioral objectives by the classroom teacher would facilitate the achievement of fifth grade students in map reading skills. After using behavioral objectives for ten consecutive periods, no significant differences were found for pupils who were given objectives at each instructional period. The effects of the use of repeated performance objectives upon reading maps, tables, and graphs was studied by Ferre (1972). The most significant achievement gains were found when objectives were presented daily as contrasted to not at all or at the beginning of each unit.

NEED FOR THE STUDIES

Because of the inconsistent and conflicting findings, reading teachers and clinicians have been confused about the usefulness of informing subjects about behavioral objectives. This investigation offers empirical data which will assist reading teachers and clinicians in making decisions about whether they should inform remedial reader subjects (before they begin a reading activity) about a specific behavioral objective.

THREE INVESTIGATIONS

Three investigations were under taken to test the validity of Mager's

assumption. The investigations were designed to test whether the performance of remedial readers would be higher if the subjects were given behavioral objective information on one of two paired tasks.

The first investigation was originally designed to determine if subjects who had not previously received behavioral objective information would do better on one of two paired tasks when they were given behavioral objective information. However, it was found after the data was collected that 75% of the tutors had repeatedly informed the subjects of the behavioral objective during the first two months of the tutoring sessions. Therefore, a second investigation was undertaken and the tutors were given specific instructions at the beginning of the semester to never inform the subjects about the behavioral objective for the reading activity. Data on paired task performance was again collected after the subjects had been tutored for two months. A third investigation was undertaken to replicate the first two. The subjects were divided into two groups. The first group was given behavioral objective information twice weekly for two months (to replicate the first investigation) and the second group was never given behavioral objective information for a two month period (to replicate the second investigation).

SUBJECTS

The subjects were three different groups of 16 pupils with reading problems who were being tutored in the Reading Center at the University of Kentucky. The average grade placement of the 16 subjects in the first investigation was 4.8 with a range from one first grade subject to one adult. The average IQ on the Peabody Picture Intelligence Test was 96.6 (Dunn, 1965). The average grade equivalent score was 2.8 on the Oral Reading Test of the Gates-McKillop Reading Diagnostic Test (Gates-McKillop, 1962). Differences between grade equivalent scores on the Comprehension Test of the Gates-MacGinitie Reading Test (Gates-MacGinitie, 1965)

and actual grade placement showed that the level of achievement was 2.2 grade equivalents below actual grade placement.

The 16 subjects in the second investigation were similar to the subjects in the first. The subjects average grade placement was 5.8 with a range from one subject in the second grade to one subject in the tenth grade. The average IQ was 95.4 on the Slosson Intelligence Test (Slosson, 1962). The average grade equivalent score was 3.0 on the Oral Reading Test of the Gates-McKillop Reading Diagnostic Test (Gates-McKillop, 1962). Differences between actual grade placement and the Comprehension Test of the Gates-MacGinitie Reading Test (Gates-MacGinitie, 1965)showed that the level of achievement was 2.6 grade equivalents below actual grade placement.

The 16 subjects in the third investigation resembled the first two groups of remedial readers. The average grade placement was 5.1 with a range from one subject in the second grade to one subject in the tenth grade. The average IQ on the Slosson Intelligence Test was 104.3 (Slosson, 1962). The average grade equivalent score was 3.0 on the Oral Reading Test of the Gates-McKillop Reading Diagnostic Test (Gates-McKillop, 1962). Differences between actual grade placement and the Comprehension Test of the Gates-MacGinitie Reading Test (Gates-MacGinitie, 1965) showed that the level of achievement was 2.5 grade equivalents below actual grade placement. The third group of 16 subjects was divided into two groups of eight using a blocking technique based upon intelligence scores and the discrepancy between actual grade placement and scores on the Comprehension Test of the Gates-MacGinitie (Gates-MacGinitie, 1965).

The 48 subjects were selected from a pool of over 100 subjects who were tested and diagnosed for their reading problem the previous semester. The 48 subjects were selected on the basis of their willingness to come to the Reading Center and whether the reading problem was severe enough to warrent remediation. As a result of the diagnosis during the previous semester, an

extensive case study of the reading problem was available on each subject. The case study included background information, test data, analysis and diagnosis of the reading problem, and suggestions for remediation.

TUTORS

The tutors were graduate students enrolled in a graduate course in reading remediation. All of the graduate students had completed a prerequisite course on the diagnosis of reading disabilities. Each of the tutors were randomly assigned to individually work with the subjects and did not work with subjects that they had diagnosed the previous semester.

PROCEDURES

A requirement of the course in reading remediation was to develop specific behavioral objectives for each tutoring session. The instructor spent three 2-hour class sessions illustrating and discussing behavioral objectives. Prior to the above class sessions each tutor was required to read Mager's book, Preparing Instructional Objectives (1962). The instructor also held individual conferences with each tutor to assist him in preparing instructional objectives.

Each behavioral objective included the following three parts as suggested by Mager (1962:53): "1. An identification of the overall behavioral act, 2. Important conditions under which the behavior is to occur, and 3. The criterion of acceptable performance".

Near the mid-point of the semester, the instructor asked the graduate tutors to develop two paired reading tasks which would take approximately ten minutes to implement. The tasks were to be activities that the tutor would normally do during the tutoring session. The similarity of the paired tasks was verified before implementation by the instructor. Behavioral objectives were developed for each of the paired tasks and each criterion of acceptable performance was stated in percentage.

The criterion of acceptable performance was the same for each of the paired tasks.

The type of tasks varied from subject to subject. The skill and frequency of each skill (for paired task performance) was as follows for the 48 subjects:

Skill	Frequency
Comprehension	13
Sight Words	12
Long or short sounds of the vowel	11
Consonent digraphs	4
Syllabication	3
Consonant blends	2
Oral Reading	2
Letters with two sounds	1

The procedure for implementation of the tasks was to ask the pupil to do one of the paired task without informing the subject of the specific behavioral objective. On the other paired task, the tutor asked the subject to do the assignment and orally informed the subject about the specific behavioral objective. The order of the two paired tasks was randomly assigned to test for order effect.

An example of one of the behavioral objectives which was used will follow. Given a two page story from the book, A Pig Can Jig (Rasmussen and Goldberg, 1964) and ten minutes to do the task, B will be able to orally pronounce 54 of the 60 words (90 percent) without assistance. The subject was informed of the objective in the following manner. B, today you're going to read a two page story from the book, A Pig Can Jig. You're to read the story out loud, by yourself and in ten minutes or less. I don't want you to miss any more than six words on the two pages.

The dependent variable was the percentage of pupil performance. The independent variable was informing the pupil of the specific behavioral objective.

RESULTS

Subject, criterion of acceptable performance, uninformed performance, informed performance, and informed minus uninformed difference for the three investigations has been presented in Tables 1, 2, 3, and 4.

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Table 1. Investigation Number One. Performance of Sixteen Subjects Who Had been Informed of Behavioral Objectives Prior to the Paired Task Investigation.

SUBJECT	CRITERION OF ACCEPTABLE PERFORMANCE	UNINFORMED PERFORMANCE	INFORMED PERFORMANCE	INFORMED-UNINFORMED DIFFERENCE
WM	100	100	100	0
RB	100	100	100	0
CR	70	70	90	+20
KD	95	95	100	+ 5
BT	64	100	79	-21
HB	85	72	86	+14
BD	88	100	97	- 3
UN	100	80	100	+20
ZD	95	97	95	- 2
MC	80	90	80	-10
BV	90	95	97	+ 2
CB	100	96	100	+ 4
WT	90	100	100	0
BJ	99	97	97	0
WB	100	83	92	+ 9
MR	100	86	92	+ 6
P= N.S.		$\bar{X}$=91.3 SD=10.2	$\bar{X}$=94.1 SD= 7.1	

Table 2. Investigation Number Two. Performance of Sixteen Subjects who had not been Informed of Behavioral Objectives Prior to the Paired Task Investigation.

SUBJECT	CRITERION OF ACCEPTABLE PERFORMANCE	UNINFORMED PERFORMANCE	INFORMED PERFORMANCE	INFORMED-UNINFORMED DIFFERENCE
MK	80	80	70	-10
CE	100	100	100	0
RM	90	86	100	+14
NB	80	60	70	+10
OK	80	65	50	-15
HP	75	88	100	+12
RG	80	42	92	+50
SR	88	25	38	+13
KR	90	87	100	+13
LJ	100	100	100	0
HP	88	100	100	0
FK	91	73	100	+27
AL	95	100	100	0
AM	100	100	90	-10
LK	88	75	100	+25
SD	80	60	90	+30
$P = <.05$		$\bar{X}$=77.6 SD=22.5	$\bar{X}$=87.5 SD=19.8	

Table 3. Investigation Number Three-Replication of Number One. Performance of Eight Subjects who had been Informed of Behavioral Objectives Prior to the Paired Task Investigation.

SUBJECT	CRITERION OF ACCEPTABLE PERFORMANCE	UNINFORMED PERFORMANCE	INFORMED PERFORMANCE	INFORMED-UNINFORMED PERFORMANCE
GR	80	60	60	0
FB	82	46	91	+45
BJ	90	96	92	- 4
SA	100	100	100	0
WA	88	100	100	0
OD	100	100	100	0
UP	94	96	96	0
CJ	90	90	80	-10
P = N.S.		$\bar{X}$=86.0 SD=21.0	$\bar{X}$=89.9 SD=13.8	

Table 4. Investigation Number Three-Replication of Number Two. Performance of Eight Pupils who had not been Informed of Behavioral Objectives Prior to the Paired Task Investigation.

SUBJECT	CRITERION OF ACCEPTABLE PERFORMANCE	UNINFORMED PERFORMANCE	INFORMED PERFORMANCE	INFORMED-UNINFORMED PERFORMANCE
YC	80	90	100	+10
BS	88	75	82	+ 7
PR	100	92	100	+ 8
MJ	100	50	90	+40
SD	85	57	87	+30
CB	75	58	83	+25
WT	83	75	83	+ 7
TP	86	50	86	+36
$P = < .004$		$\bar{X}$=68.4 SD=17.0	$\bar{X}$=88.9 SD= 7.3	

Data from the three investigations was analyzed using analysis of variance for correlated means with repeated measures. The repeated measures tested to see is there was an order effect relevant to asking the pupil to do the uninformed task first and informed task second (or vice versa) in the research design. There was no significant order effect relevant to placement of the uninformed or informed task first in the three investigations.

The tests of significance reported in Tables 1, 2, 3, and 4 show that the proposed null hypothesis was accepted for subjects who had been informed of behavioral objectives prior to paired task performance as shown in investigation number one and replicated in investigation number three (reported in Table 3). However, the proposed null hypothesis was rejected for subjects who had not been informed of behavioral objectives prior to paired task performance as shown in investigation number two and replicated in investigation number three (reported in Table 4).

DISCUSSION

These findings have a logical explaination. Because of prior conditioning, the subjects who had been previously informed of behavioral objectives carried into the uninformed task a high level of aspiration which resulted in a level of performance which was similar to the informed task (as seen in Tables 1 and 3). By contrast, the subjects who had not been previously informed of behavioral objectives did not carry into the uninformed task a high level of aspiration because they had not been conditioned with behavioral objectives prior to the uninformed task performance. Therefore, there was a significant difference between performance on the informed and the uninformed tasks (as seen in Tables 2 and 4).

In short, the no significant difference finding with subjects who had been informed of behavioral objectives over a period of time was an important finding! Informing remedial readers of behavioral objectives for a two month period helped the subjects to maintain a high level of performance on the uninformed task. On

the other hand, remedial readers who had not been informed of behavioral objectives for a two month period had significantly lower performance on the uninformed task. However, performance quickly and significantly increased when the previously uninformed subjects were given behavioral objective information for the first time. The replication of these results in the third investigation enhances the validity of these findings.

In conclusion, these investigations with remedial readers support Mager's (1962) assumption that learner performance is significantly increased when pupils are given information about behavioral objectives. Because the findings were replicated with different teachers at a different time, it seems logical that other reading teachers and clinicians can significantly increase remedial reader performance on reading activities by informing pupils of the specific behavioral objective.

Additional unanswered questions relate to whether the same results would be found with groups of pupils, average and above average pupils, pupils at all grade levels, and if long term use of behavioral objective information causes significant increases with measures such as standardized reading tests. Additional investigations need to focus on these questions.

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